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METHOD OF PROCESSING COMPOSITES ON A LATEX BASE
(Description of an invention for an author's certificate)

by

V.I. Klassen, A.D. Kovtun, A.M. Farionov



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HUMAN TRANSLATION

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Block	Italic	Transliteration .	Block	Italic	Transliteration
А а	<i>А а</i>	A, a	Р р	<i>Р р</i>	R, r
Б б	<i>Б б</i>	B, b	С с	<i>С с</i>	S, s
В в	<i>В в</i>	V, v	Т т	<i>Т т</i>	T, t
Г г	<i>Г г</i>	G, g	У у	<i>У у</i>	U, u
Д д	<i>Д д</i>	D, d	Ф ф	<i>Ф ф</i>	F, f
Е е	<i>Е е</i>	Ye, ye; E, e*	Х х	<i>Х х</i>	Kh, kh
Ж ж	<i>Ж ж</i>	Zh, zh	Ц ц	<i>Ц ц</i>	Ts, ts
З з	<i>З з</i>	Z, z	Ч ч	<i>Ч ч</i>	Ch, ch
И и	<i>И и</i>	I, i	Ш ш	<i>Ш ш</i>	Sh, sh
Й я	<i>Й я</i>	Y, y	Щ щ	<i>Щ щ</i>	Shch, shch
К к	<i>К к</i>	K, k	Ъ ъ	<i>Ъ ъ</i>	"
Л л	<i>Л л</i>	L, l	Ы ы	<i>Ы ы</i>	Y, y
М м	<i>М м</i>	M, m	Ь ь	<i>Ь ь</i>	'
Н н	<i>Н н</i>	N, n	Э э	<i>Э э</i>	E, e
О о	<i>О о</i>	O, o	Ю ю	<i>Ю ю</i>	Yu, yu
П п	<i>П п</i>	P, p	Я я	<i>Я я</i>	Ya, ya

*ye initially, after vowels, and after Ъ, Ь; e elsewhere.
When written as ѣ in Russian, transliterate as ye or ѣ.

RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English	Russian	English	Russian	English
sin	sin	sh	sinh	arc sh	sinh ⁻¹
cos	cos	ch	cosh	arc ch	cosh ⁻¹
tg	tan	th	tanh	arc th	tanh ⁻¹
ctg	cot	cth	coth	arc cth	coth ⁻¹
sec	sec	sch	sech	arc sch	sech ⁻¹
cosec	csc	csch	csch	arc csch	csch ⁻¹

Russian English

rot curl
lg log

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METHOD OF PROCESSING COMPOSITES ON A LATEX BASE
(Description of an invention for an author's certificate)

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(54) Method of Processing Composites on a Latex Base

The invention pertains to obtaining composites on latex bases which have been processed in a magnetic field. Such composites are used in ship building, ship repair operations and construction.

A method is known for processing composites on a latex base in a magnetic field (variable or constant) with a strength of from 300 to 1000 Oe in a time of 15 s - 10 min depending on the strength of the field.

The mastic mass obtained in this manner has technological properties (fluidity, ease of laying) which are not suitable enough, and the hardened mastics and adhesives - unsatisfactory physico-mechanical properties (compressive strength, bending strength, adhesion to metals).

The purpose of the invention is improving the technological and physico-mechanical properties of mastics and adhesives obtained on a latex base.

According to the proposed method the latex, which has been stabilized in standard mix proportions, is passed through a magnetic field with a strength of from 400 to 2000 Oe perpendicular to its force lines at a rate of 0.1-5.0 m/s.

For determining the compressive strength of the coating samples with the dimensions 150x150x20 mm were prepared. After setting for 30 days 20x20x20 mm blocks were cut out of them. These were tested for compression with a loading rate of the machines of 10 mm/min. For determining the bending strength samples were prepared - beams with the dimensions of 300x20x20 mm. After the samples set for 30 days they were tested under the following conditions: distance between supports 200 mm, loading rate 10 mm/min.

For determining the adhesion to metal mastics which were 100 mm thick were deposited on two steel disks (90 mm). Then the sides which were coated with mastic were put together and held together manually. The excess amount of mastic was removed. After setting for 30 days the samples were tested on a tensile testing machine with a rate of movement of the clamps of 2 mm/min.

Setting took place at a temperature of 18-20°C.

During the tests the average arithmetic values from six determinations were found. The table gives the results of the testing with a rate of flow of the solution through the magnetic apparatus of 0.3 m/s and with different strengths of the magnetic fields H (Oe).

H	$\sigma_{сж}$		$\sigma_{изг}$		$\sigma_{адг}$	
	кг/см ² (4)	увеличение прочности, % (5)	кг/см ² (4)	увеличение прочности, % (5)	кг/см ² (4)	увеличение прочности, % (5)
460	49,6	9,8	48,1	14,5	3,70	3,3
525	50,8	12,4	50,5	20,2	3,81	6,5
640	52,9	17,3	54,8	30,5	3,90	9,0
730	55,5	22,8	58,7	39,8	4,05	13,1
810	57,4	27,0	67,3	60,5	4,26	18,8
860	59,0	31,0	63,2	50,6	4,16	16,2
900	57,0	26,1	62,3	48,5	4,08	14,0
950	56,2	24,2	59,0	40,5	3,92	9,5

Примечание. $\sigma_{сж}$ — прочность мастики при сжатии; (1)
 $\sigma_{изг}$ — прочность мастики при изгибе; (2)
 $\sigma_{адг}$ — прочность сцепления мастики при отрыве от стальной поверхности. (3)

Key: (1) compressive strength of the mastic; (2) bending strength of the mastic; (3) cohesion strength of the mastic in the case of separation from the steel surface; (4) kgf/cm²; (5) increase of strength, %.

Subject of Invention

A method of processing composites on a latex base which has been processed in a variable or constant magnetic field, which is characterized by the fact that for the purpose of improving the physico-mechanical properties of the mastics and adhesives on a latex base the latex is passed through a magnetic field with a strength of from 400 to 2000 Oe perpendicular to its force lines at a rate of 0.1-5.0 m/s.

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